

PSRFEF OC Meeting

June 2023



Washington
Department of
**FISH and
WILDLIFE**

Agenda

- NOF Season Summary
- MA 11 Update
- PSRFE Budget Review
 - What's left to spend?
 - Ideas
 - GovDelivery
 - Hydroacoustic Data Analysis Software License
- Noteworthy Events





NOF Summary

2023 Recreational Considerations

- Stillaguamish Chinook conservation limits will continue to drive most recreational opportunity
- Maximizing fishing opportunity within available impacts/conservation constraints
- Recent year variability and effort trends
 - Increases in effort over historical averages
- Pinks will be part of the daily limit in most areas.



MA-5

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire area	July 1 – Aug. 15	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 hatchery Chinook may be retained. Release chum, wild coho, and wild Chinook. Season may close earlier if Chinook guideline is attained	Total Legal-Size Encounters: 7,254
Entire area	Aug. 16 – Sept. 30	No min. size. Daily limit 2. Release Chinook, chum, and wild coho.	
Entire area	Oct. 1—Oct. 15	No min. size. Daily limit 2. Release chum and Chinook.	
Entire area	April 1 – Apr. 30	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Release chum, coho, and wild Chinook.	Total Sublegal Encounters: 3,707



MA-6

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Chinook Selective Fishery – West of a true north/south line through the #2 Buoy	July 1 – Aug. 15	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Release chum, wild coho, and wild Chinook. Season may close earlier if Chinook guideline is attained	Total Legal-Size Encounters: 11,516
Chinook Release Area – East of a true north/south line through the #2 Buoy	July 1 – Aug. 15	No min. size. Daily limit 2. Release Chinook, chum, and wild coho.	
Entire Area	Aug. 16 – Sep. 30	No min. size. Daily limit 2. Release Chinook, chum, and wild coho.	
Entire Area	Oct. 1 – Oct. 15	No min. size. Daily limit 2. Release chum and Chinook.	
Dungeness Bay Fishery	Oct 1. – Oct. 31	No min. size. Daily limit 2 hatchery coho only. Release wild coho.	



MA -7

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire Area	Jul. 13 – Jul 15	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 hatchery Chinook may be retained. Release chum, wild coho, and wild Chinook. Additional days may be added based on in-season updates. Bellingham Bay and Samish Bay closed to Salmon.	Quota: 2,181 Total Unmarked Encounters: 4,258 Total Sublegal Encounters: 2,544
Entire Area	Aug. 1 – Aug. 31	No min. size. Daily limit 2. Release chum, wild coho, and Chinook.	
Bellingham Bay Fishery	Aug. 16 – Sep. 30	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 4.	
Entire Area	Sep. 1 – Sep. 30	No min. size. Daily limit 2. Only 1 coho may be retained. Release chum and Chinook.	



MA- 8.1

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
<p>Entire Area - South and west of a line between Clinton and Mukilteo ferry docks.</p>	<p>Aug. 1 – Sept. 30</p>	<p>No min. size. Daily limit 2. Release Chinook and chum.</p>	<p>N/A</p>
<p>Tulalip Terminal Area Fishery -</p>	<p>May 26 – Sept. 4</p>	<p>Open Fridays through Noon Mondays ONLY. Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Closed on June 10, 2023.</p>	
	<p>Sept. 9– Sept. 24</p>	<p>Open Saturdays and Sundays ONLY. Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2.</p>	



MA- 8.2

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire Area	Aug. 1 – Sep. 24	No min. size. Daily limit 2. Only 1 may be coho. Release Chinook and chum.	N/A



MA-9

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire Area	Jul. 13 – Jul. 31	Open Thursday, Friday, and Saturday ONLY. Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Release chum, wild coho, and wild Chinook. Season may close earlier if Chinook quota is attained.	Quota: 4,300
Entire Area	Aug. 1 – Sept. 17	No min. size. Daily limit 2. Release chum, wild coho, and Chinook.	
Entire Area	Sept. 18 – Sep. 30	No min. size. Daily limit 2. Release Chinook and chum.	



MA -10

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire Area	June 1 – July 12	No min. size. Daily limit 2. Release Chinook and chum.	
Entire Area	July 13 – Aug. 31	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 Chinook may be retained. Release chum and wild Chinook. Season may close earlier if Chinook quota is attained.	Quota: 3,566 Total Sublegal Encounters: 7,748
Entire Area	Sept. 1 – Sept.30	No min. size. Daily limit 2. Release chum and Chinook.	
Entire Area	Oct.1– Oct. 31	No min. size. Daily limit 2. Release Chinook.	
Entire Area	Mar.1— April. 15	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 hatchery Chinook may be retained. Release wild Chinook and chum. Season may close earlier if Chinook guideline is attained.	Total Encounters: 4,953 Total Unmarked Encounters: 953 Total Sublegal Encounters: 4,181



MA- 11

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
Entire Area	June 1 – Sept. 30	Open Thursday through Sunday ONLY. Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 hatchery Chinook may be retained. Release chum and wild Chinook. Season may be adjusted or closed if catch or encounters approach allowable limits. close earlier if Chinook quota is attained.	<p><u>June 01, 2023</u> Quota: 1,423 Total Unmarked Encounters: 901 Total Sublegal Encounters: 1,697</p> <p><u>July 01, 2023</u> Quota: 3,379 Total Sublegal Encounters: 3,845</p>
Entire Area	Oct 1. – Oct. 31	No min. size. Daily limit 2. Release Chinook.	
Entire Area	March 1– April 15	Chinook - min. size 22". Other salmon species - no min. size. Daily limit 2. Only 1 Chinook may be retained. Release chum and wild Chinook.	Total Encounters: 1,093 Total Unmarked Encounters: 256 Total Sublegal Encounters: 732



MA -12

WATER	SEASON	ADDITIONAL RULES	FISHERY CONTROLS
North of Ayock Point – Quilcene Bay Only	Aug. 1 – Aug. 31	No min. size. Daily limit 4. Release chinook and chum.	N/A
North of Ayock Point	July 10– Oct. 31	No min. size. Daily limit 4. Release Chinook. Release chum through 10/15.	
South of Ayock Point	July 10 – Sept. 30	Chinook - min. size 20". Other salmon species - no min. size. Daily limit 4. Release chum and wild Chinook. Anglers may fish with two poles with Two-Pole Endorsement.	
South of Ayock Point	Oct. 1 – Oct. 31	No min. size. Daily limit 4. Release Chinook. Release chum through 10/15.	
Entire Area	Nov. 1 – Nov. 30	No min. size. Daily limit 4. Release Chinook and coho.	
Hoodsport Hatchery Zone	July 1 – Nov. 30	No min. size. Daily limit 4. Release wild Chinook. Release chum July 1 through October 15. Two-Pole endorsement 07/1 through 10/31.	



MA -11 Estimates through June 4, 2023

SUMMER 2023 Puget Sound Chinook Salmon Recreational Fisheries Estimates							
Marine Area	Planned Fishery Dates (Start/End)	Sample Design	Fishery Control(s)	FRAM (Chin2023)	Updated Estimate	% Est/FRAM	Est. Through Date
11	June 1, 2023 June 30, 2023	Full Murthy	Expected catch - Quota	1,423	786	55%	June 4, 2023
			Total unmarked encounters	901	675	75%	
			Total sublegal encounters	1,697	675	40%	



MA -11 Test Fishing Encounters

Data Description	Chinook Encounters by Size/Mark Status ^{1/}					Legal-size Mark Rate	Overall Mark Rate
	LM	LU	SM	SU	Total		
Test Fishing Total Number Chin. Encounters, Jun 1 - Jun 30, 2023:	12	7	8	4	31	63.2%	64.5%
Encounter Rates (LM, LU, SM, SU) ^{2/} :	38.7%	22.6%	25.8%	12.9%	100.0%		



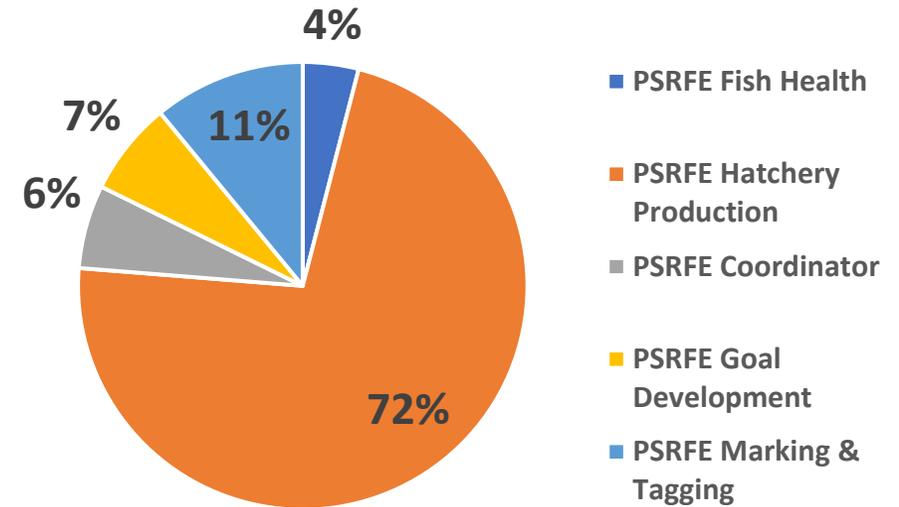


PSRFEF Budget Breakdown

Budget

Fish Health	\$112,769
Hatchery Production	\$2,031,352
Coordinator	\$169,644
Goal Development	\$190,000
Marking & Tagging	\$307,435
Total	\$2,811,200

Biennium 21-23 Projected Budget Distribution



54912: Goal Development Breakdown

Race	Type	Species	Processed at:	Release Facility	Mark or Tag	FBD Program Number
Fall	1+	Chin	Soos Creek	Icy Creek	Ad	100,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
	1+	CO	Marblemount	Oak Harbor Net Pens	Ad+CWT	30,000
Dedicated Fund Survey						
C.O.R.E. Project						
	1+	CO	Marblemount	Oak Harbor Net Pens	Ad+CWT	30,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
Fall	0+	Chin	Garrison Springs	Garrison Springs	Ad+CWT	100,000
Dedicated Fund Survey						

54915: Marking & Tagging Breakdown

Race	Type	Species	Processed at:	Release Facility	Mark or Tag	FBD Program Number
Fall	1+	Chin	Hoodspport	Hoodspport	Ad+CWT	100,000
Fall	0+	Chin	Glenwood Springs	Glenwood Springs	Ad	100,000
Fall	0+	Chin	Voights Creek	Point Defiance NP	Ad+CWT	50,000
Fall	0+	Chin	Clarks Creek	Point Defiance NP	CWT Tagwire only	50,000
Fall	0+	Chin	Minter Creek	Minter Creek	Ad	100,000
Summer	1+	Chin	Wallace River	Wallace River	Ad+CWT	300,000
	1+	CO	Minter Creek	Hupp Springs	Ad	150,000
	1+	CO	Minter Creek	Hupp Springs	Ad+CWT	45,000
Summer	1+	Chin	Wallace River	Wallace River	Ad+CWT	300,000
	1+	CO	Minter Creek	Minter Creek	Ad+CWT	45,000
	1+	CO	Minter Creek	Hupp Springs	Ad	150,000
Fall	1+	Chin	Hoodspport	Hoodspport	Ad+CWT	100,000
Fall	0+	Chin	Clarks Creek	Point Defiance NP	CWT Tagwire only	50,000
Fall	0+	Chin	Minter Creek	Minter Creek	Ad+CWT	100,000
Fall	0+	Chin	Voights Creek	Point Defiance NP	Ad+CWT	50,000
Fall	1+	Chin	Soos Creek	Icy Creek	Ad	100,000

What's left to spend?

54912 Goals and Development has
\$18,291

54915 Marking and Tagging has
\$71,644

Funding opportunities to close out biennium..





Funding Opportunities

GovDelivery Notifications

- The communications team has acquired a GovDelivery account for the agency to send emergency regulation updates via SMS messages.
- Anglers will be able to sign up for emergency regulation SMS notifications.
- The current account allows 100k SMS messages per year.
- We can help fund this by purchasing a tier of messages per year specific to Puget Sound Recreational salmon fisheries.
- The cost for 100k SMS messages is ~\$3000 / year.



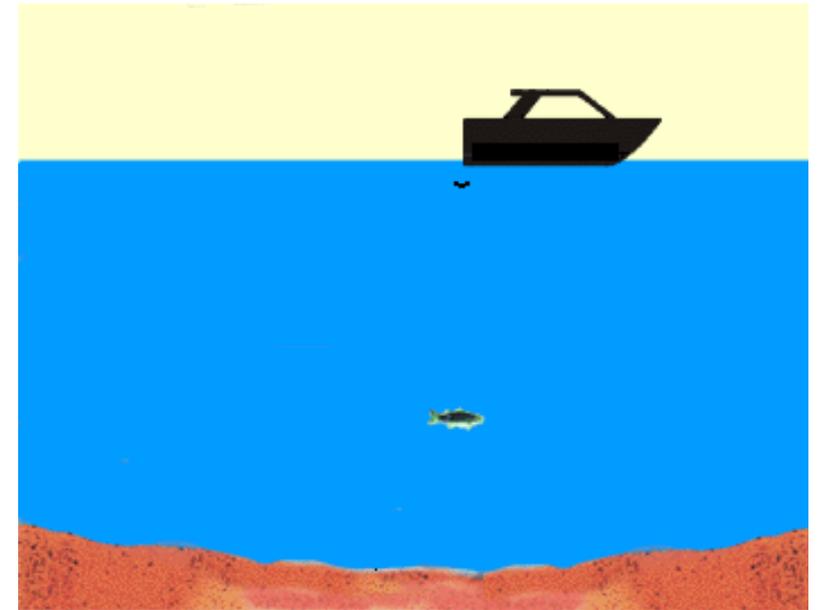
Hydroacoustic Projects

WDFW recently started several new acoustic surveys

- Fall Chum
- Skagit / Baker Lake Sockeye
- Samish Steelhead

Other surveys that have been conducted or may resume

- Dungeness Steelhead
- Puget Sound Herring
- Pelagic Rockfish



Benefit of Acoustics

Used extensively for fisheries management

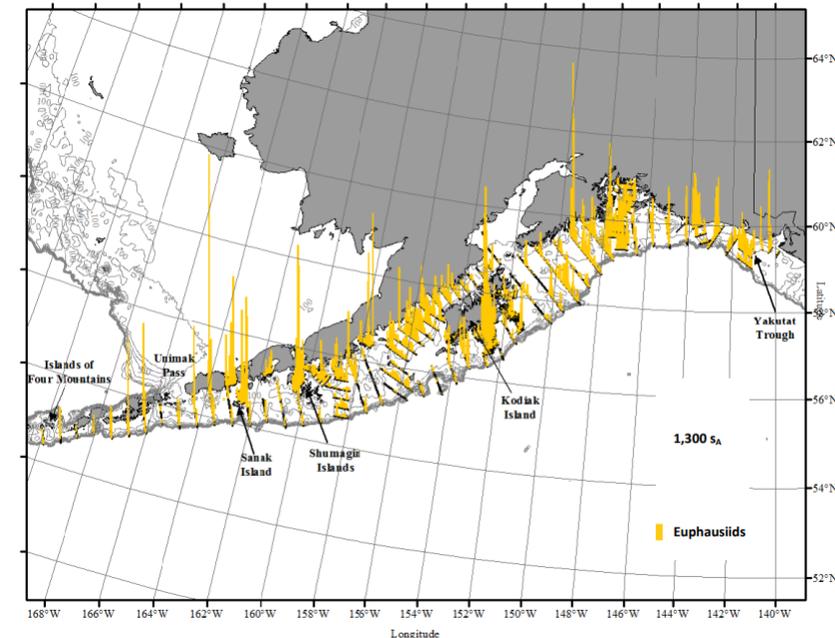
- Alaska – pollock, cod, rockfish
- West Coast – whiting, pollock, herring, anchovy
- Atlantic – cod, haddock, herring
- Southern ocean - krill

High Spatial and Temporal resolution

- Can cover large areas quickly
- Can collect data continuously

Can be less invasive

- Fewer biological samples necessary to assess abundance



From Jones, et al 2014. AFSC Processed Report



Baker Lake Sockeye Management Challenges

2022: Baker Lake / Skagit Sockeye outperformed the forecast

- **Good news** – more recreational opportunities than recent years
- **Bad news** – high uncertainty in the run timing
- Predicting run size pre-season is an ongoing challenge
- Environmental Concerns
 - Run-time shifts
 - Holding patterns stalled by dry conditions
- Focusing time and resources to developing real-time in-season management tool in the lower Skagit
- **Enter: hydroacoustics**



Skagit Hydroacoustic Monitoring Project

Skagit River adult and juvenile monitoring

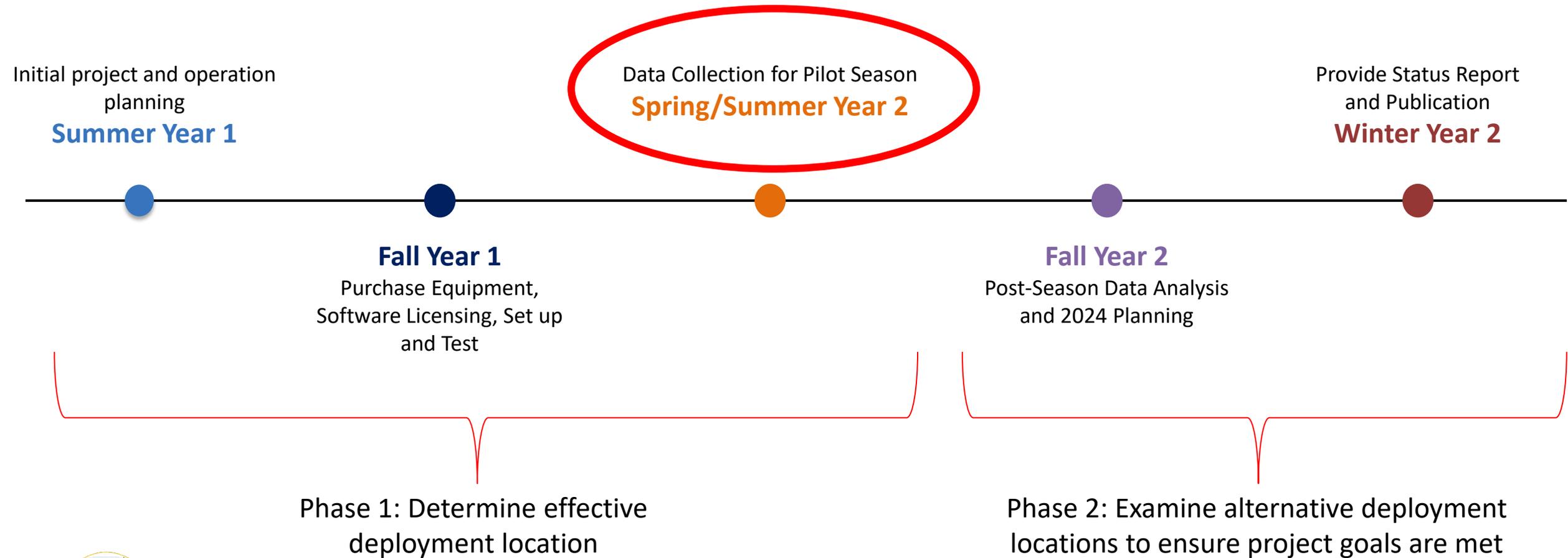
Goal: Provide in-season abundance estimation of salmon stocks returning to the Skagit River System

Phase 1: in-season adult sockeye abundance estimation, using Baker River Trap to validate counts (evaluate efficiency with trap counts)

Phase 2: multi-species adult and juvenile abundance estimation, fish-in/ fish-out evaluation

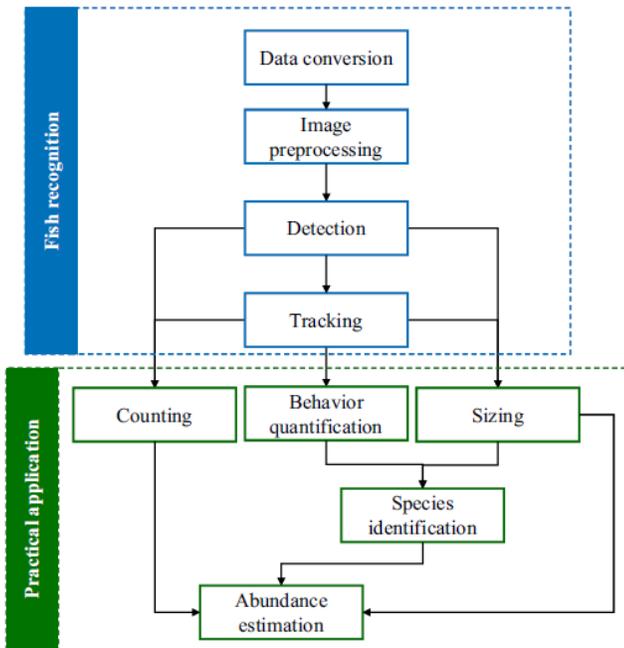


Potential Hydroacoustic Deployment Timeline: First Year and Pilot Season

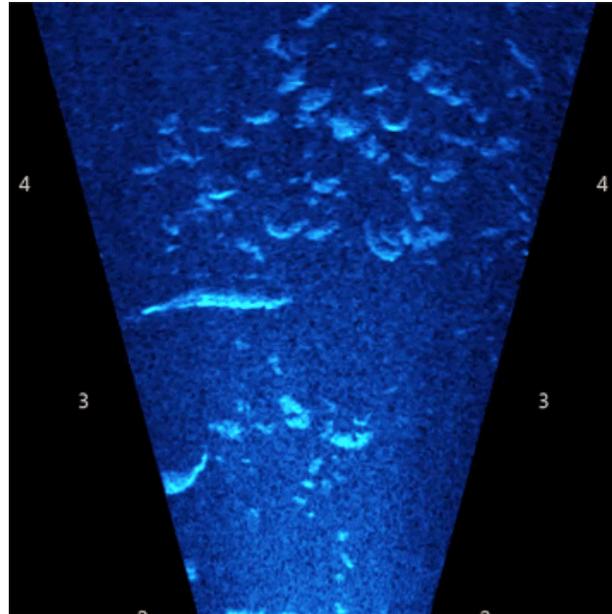


Acoustic Data Processing with Echoview

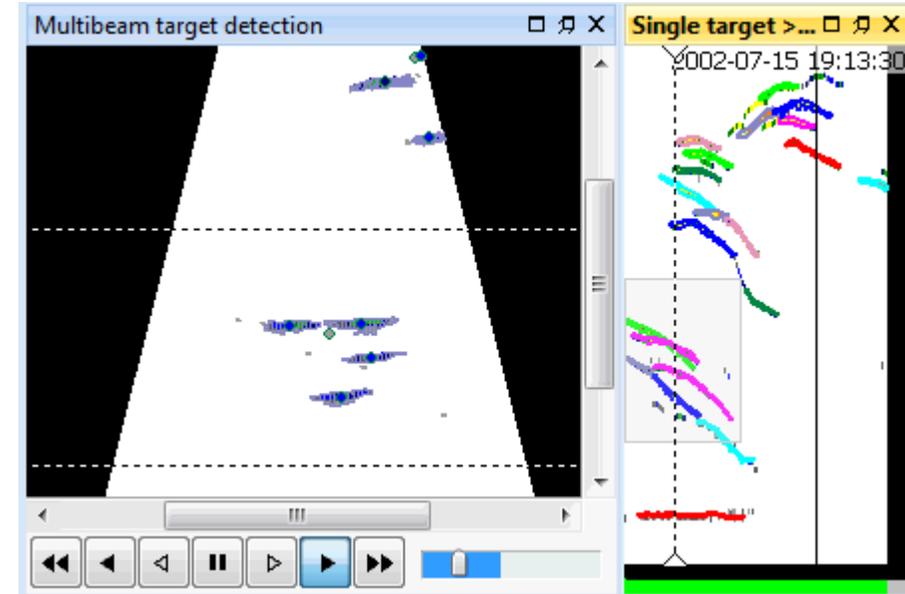
Automated Data Flow



Data Collection



Data Processing



ARIS Explorer 1200

- Adaptive Resolution Imaging Sonar – “Acoustic Camera”
- Echoview Software (<https://Echoview.com/>)
- Program widely used for acoustic analysis
- Provides standardized assessment wherever SONAR is deployed
- Create data flow and Automate analysis



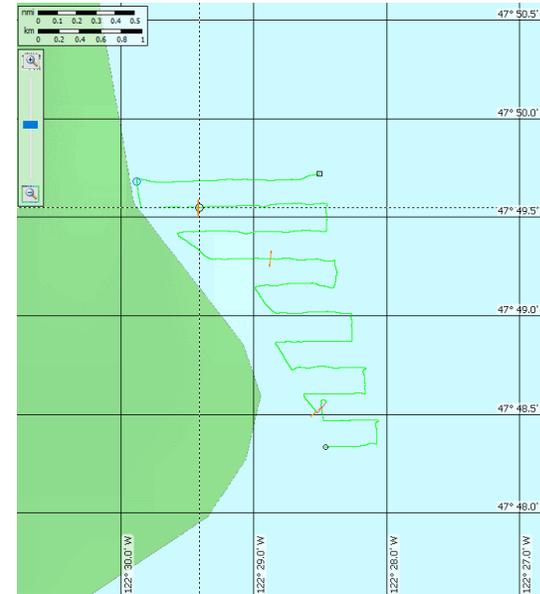
Project Status

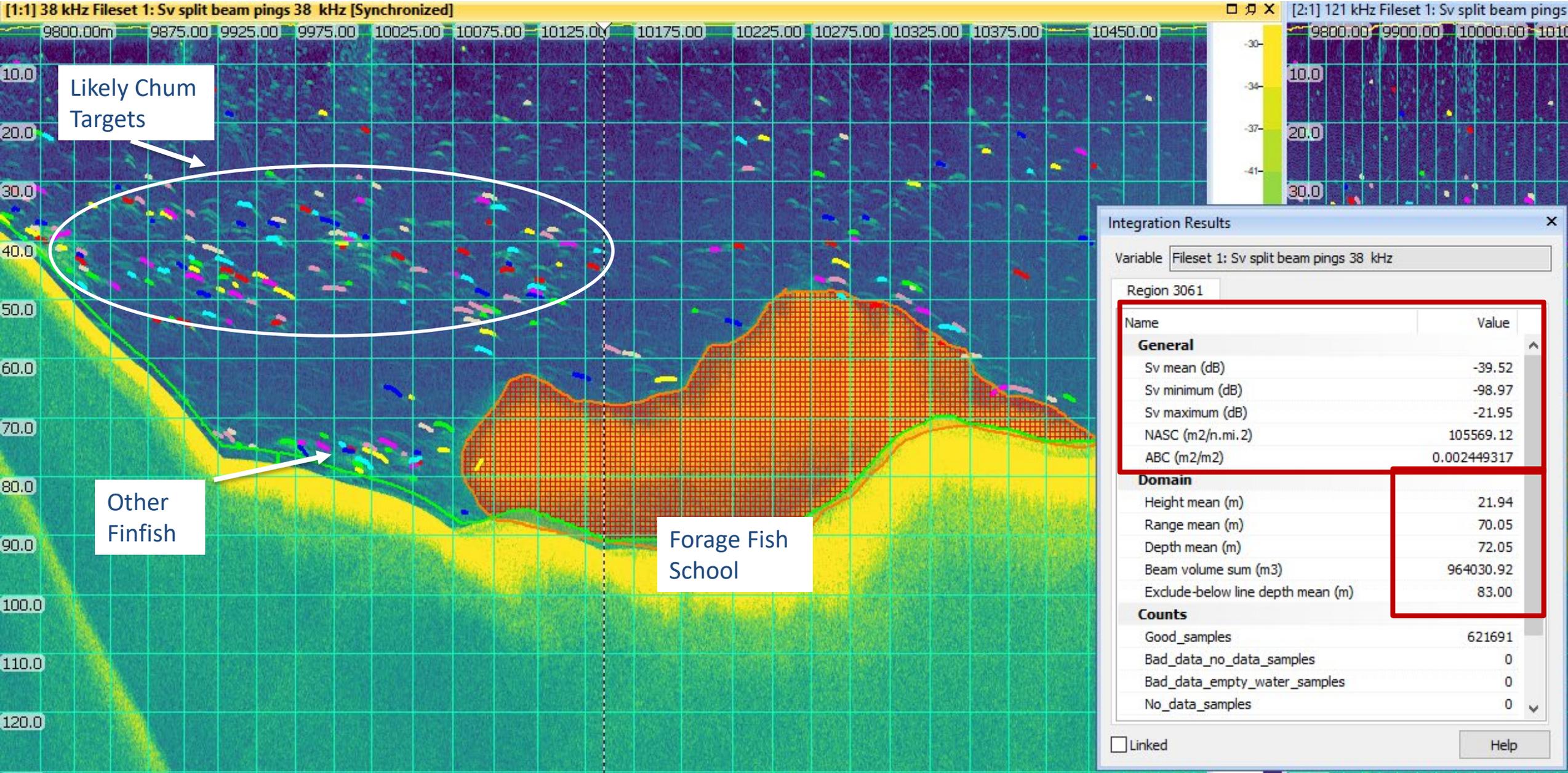
- Equipment delivered and tested
- Continuing to work with regional staff and co-managers to determine best deployment location
 - Potential site identified – to be tested soon!
 - Safety of staff and gear
 - Quality of Data
- Ongoing discussions with co-managers on assistance with deployment, implementation, monitoring, and data evaluation (Echoview)
- Define workflow and data review process
- Conducted training courses on ARIS equipment and Echoview
- Deployment set for June 2023



2022 Chum Acoustic Survey Pilot Study

- Compare chum detection and abundance to Area 9/10 test fishing boat
- Evaluate spatial and temporal detection and provide report post season
- 11 transects completed within survey area
 - Transect spacing ~250m
 - Transect length varies with coastline and depth
- 6 surveys completed in 2022
 - All done on days ACP occurred
 - 1 day missed due to weather







Next Steps

- Data Analysis!
 - Fine tune Single Target Detection and Fish Tracks
 - Continue to develop Data Flow to be implemented throughout study
 - Multifrequency analysis of forage fish schools
- Abundance Estimates
 - Match with ACP catch data
 - Compare species and CPUE



Echoview License

- Echoview is crucial to the success of these projects
- Will allow for real-time data analysis
 - Key to in-season management

Product	License & Modules	Price (USD)
Echoview Upgrade	EV0079 Essentials, Advanced Operators, School Detection	\$10,660
Echoview Maintenance and Technical Support to 4 October 2023	EV0079 Essentials, Advanced Operators, School Detection	\$2,100
Subtotal		\$12,760
Echoview Maintenance and Technical Support to 4 October 2024	EV0079	\$8,330
	EV0475 – Freshwater only Essentials, Automation, Advanced Operators, Multibeam	\$4,950
Subtotal		\$13,280
Total		\$26,040



PSRFE Noteworthy Events





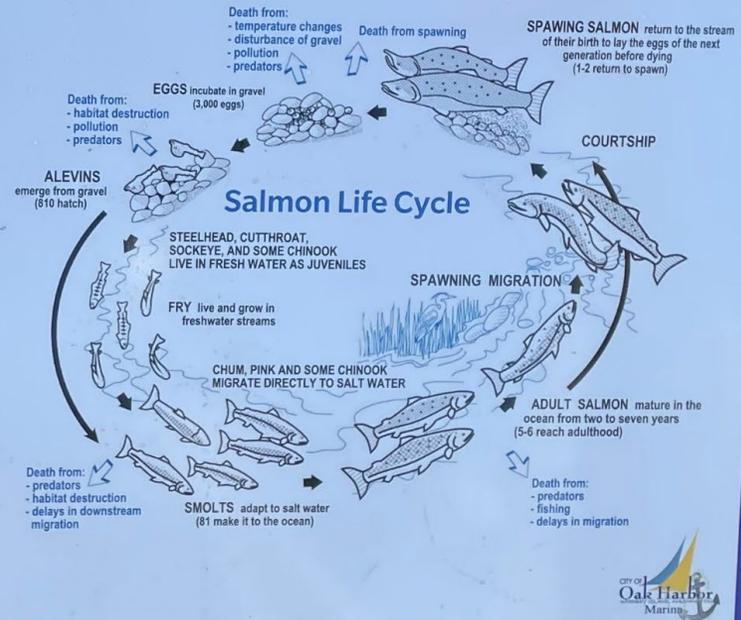
Oak Harbor Fish Release



THESE NET PENS AND THE SALMON-REARING PROGRAM
WOULD NOT BE POSSIBLE WITHOUT THE HELP OF:

Washington Department of Fish and Wildlife
Puget Sound Recreational Fisheries Enhancement Fund
Fidalgo - San Juan Island Chapter of Puget Sound Anglers Club
Tracy Loescher & Zach Loscher
Whidbey Island Maritime Heritage Foundation
Humphrey Sign Company
Iverson Insurance Agency
Kim Jaeger
Vasques Dentistry
The Tommy Lowman Family
LangCo

The many other volunteers that donated their time for this project





C.O.R.E. Net Pen Fish Transfer

CHINOOK ORCA RECOVERY EDUCATION



Adult Chinook



Smolt

Parr

Alevin

Eggs

Spawning

Chinook Orca Recovery Education (CORE) is a partnership between the Puyallup Tribe of Indians, Northwest Salmon Research, and Tacoma Public Schools. This unique partnership was formed to help restore the populations of Chinook salmon runs in the South Salish Sea.

Each year, nearly 100,000 juvenile Chinook salmon from the Puyallup Tribe of Indians and Washington Department of Fish and Wildlife are brought to Point Defiance Marina for two to three months. During that time, students from Chief Leschi and the Science and Math Institute help raise the parr-sized fish into smolt-sized fish for release into the Salish Sea. They conduct research on water quality, fish health and growth, and learn about the unique role in the ecosystem that Chinook salmon play.

These saltwater acclimation pens were secured, refurbished and installed by the Gig Harbor Chapter of Puget Sound Anglers with financial support from the Puget Sound Recreational Enhancement Fund.

In this research and rearing facility, juvenile Chinook salmon arrive during the early part of the smolt stage of the lifecycle. Before they arrive in saltwater, they are fed a special high-salt diet that helps them acclimate to the Salish Sea. Daily feeding helps them grow about twice their size, before they are released two months after their arrival. These salmon are now free to spend their life in the open ocean before they return to the Puyallup River to spawn in 3-5 years.

Chinook salmon play an important role in the ecosystem as they are the main food source for the Southern Resident Orca population. Human caused changes to the rivers and Salish Sea have drastically decreased the number of Chinook salmon available as food. This project aims to help restore the number of salmon.

The Puyallup Tribe of Indians have fished the waters of the Salish Sea since the beginning of time. Salmon were the main food source, and villages were often situated in close proximity to where abundant salmon runs could be found.

Today, salmon continue to provide for the needs of the Puyallup people. Annual ceremonies are held for the first Chinook salmon harvested, as salmon are held in the highest regard by the Puyallup Tribe of Indians.

Metro Parks Tacoma would like to thank the recreational fishing community, many volunteers and our partner agencies:







Snoqualmie Valley Ducks Unlimited Youth Outdoors Event



Department of Fish and Wildlife





Department of Fish and Wildlife

Upcoming Events

- C.O.R.E. Fish Release June or July 2023
- Next PSRFE Meeting Fall 2023



Questions/Comments?





Hydroacoustic Monitoring Support

Hydroacoustic Monitoring Projects

Hydroacoustic monitoring

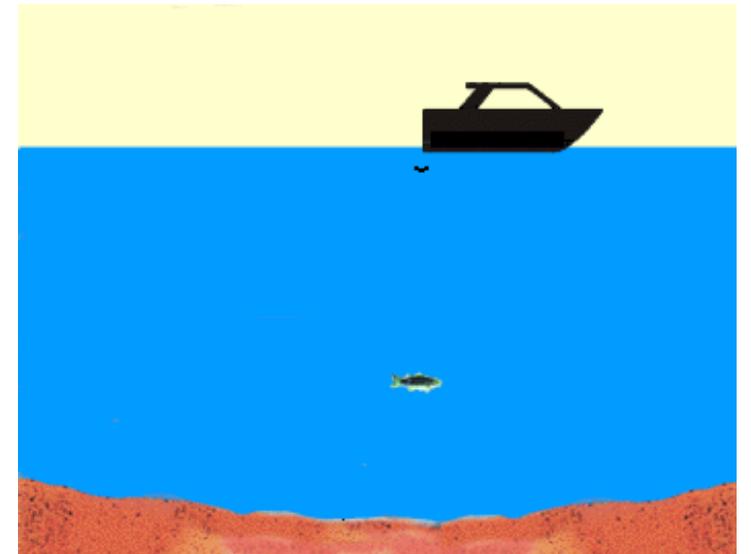
- Well known and widely used, but recently technology has advanced monitoring capabilities
- Using high resolution multi beam sonars to detect fish
- Powerful tool for fish stock assessment and behavior from lakes and rivers to sea

WDFW recently started several new acoustic surveys

- Fall Chum in Area 9 and 10 – **Management Division**
- Skagit / Baker Lake Sockeye – **Management Division**
- Samish Steelhead – Science Division

Other surveys that have been conducted

- Dungeness Steelhead – Science Division
- Puget Sound Herring – Science Division
- Pelagic Rockfish – Science Division



Benefit of Acoustics

Fisheries independent

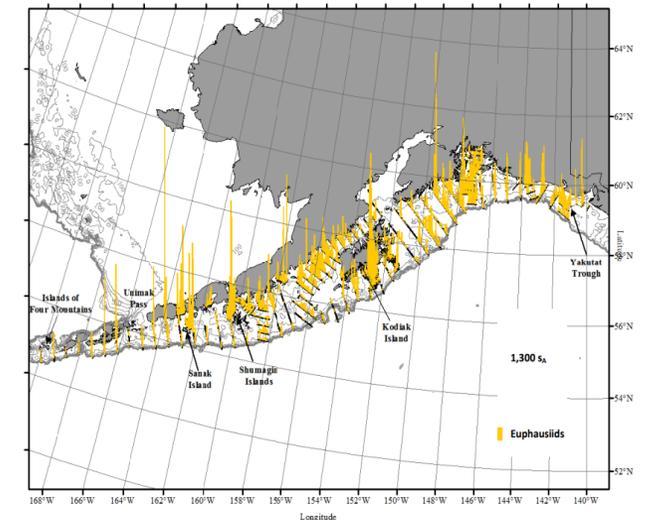
- Less invasive and don't rely on test fishery impacts (i.e., critical for our impact constrained species – Chinook, coho, sockeye)

Used extensively for fisheries management in other states and countries

- Fraser River – sockeye, pink
- Alaska – chinook, pollock, cod, rockfish
- West Coast – whiting, pollock, herring, anchovy
- Atlantic – Atlantic salmon, cod, haddock, herring
- Southern ocean - krill

High Spatial and Temporal resolution

- Can cover large areas quickly
- Can collect data continuously across time
- Improvement from observational record



From Jones, et al 2014. AFSC
Processed Report



Washington State Hydroacoustic Implementation

Equipment and staffing costs up-front

- 100K per sonar (often 2 or more required for a single study)
- 50K computer and batteries
- 50K fabrication of mounts and weirs to deploy
- 50-100K in staffing
- 18K Echoview Software purchase

What's holding us back???
~Half-million start up costs

Legislative Support

- In 2022, WDFW Received legislative funding to support freshwater and marine fisheries monitoring
- Equipment and staffing to support projects

Remaining support needs

- Annual Training (~15-20K)
- Annual Software Licensing (~25K)
- Annual Travel (~10K)
- Miscellaneous (cowboy hats for technicians, TBD)



Baker Lake Sockeye Management Challenges

Baker Lake Sockeye

- Abundances slowly climbing in recent years, but fisheries management remains conservative to support continued recovery
- Recent forecast underprediction, placing more emphasis on in-season management to provide additional opportunity
- Run timing changes in sockeye documented across pacific (i.e., dispersion and directional shifts)
- Higher uncertainty in run timing drives higher uncertainty for in-season abundance estimation

Predicting in-season run size is an ongoing challenge

- Currently use Baker Trap counts (time delay)
- Environmental conditions have been more stochastic in recent years (i.e., fish may stage at river mouth or low in-river for longer periods due to drought conditions – documented in Fraser River system, leading to higher enroute mortality)

Mangers and fishers interested in new tool to detect sockeye lower in-river and get an improved understanding of timing and abundance earlier in-season

- Hydroacoustics represent a potential pathway forward



Skagit Hydroacoustic Monitoring Project

Skagit River adult and juvenile monitoring

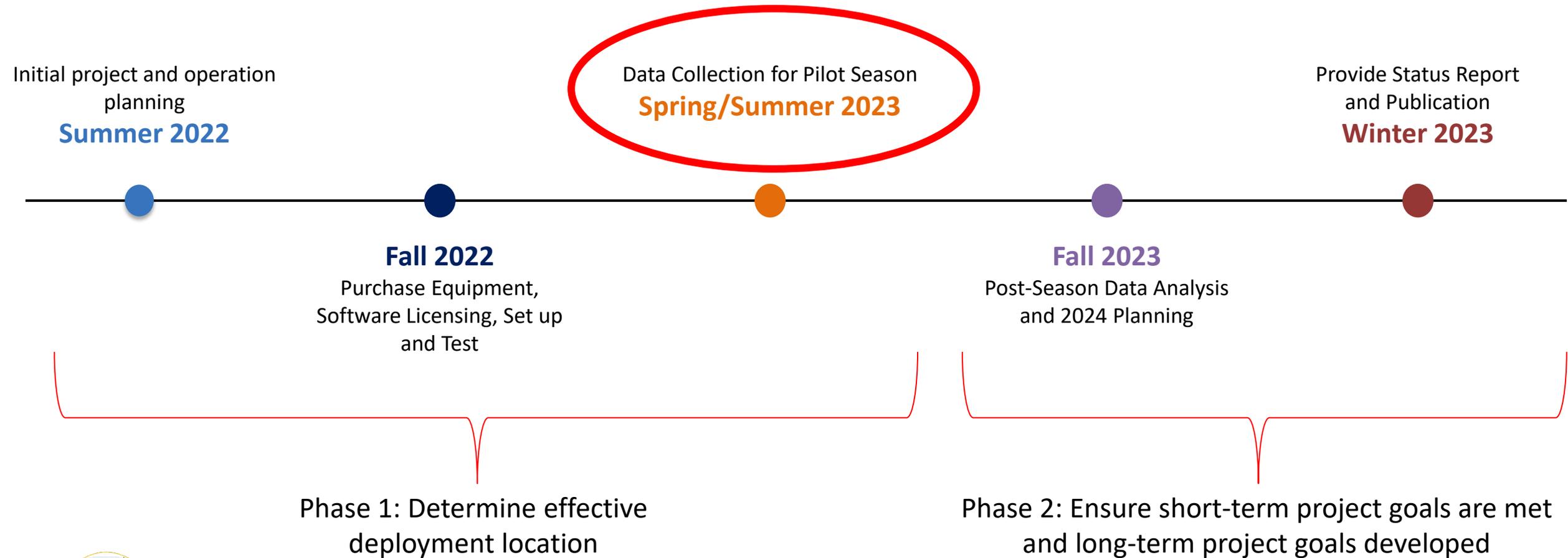
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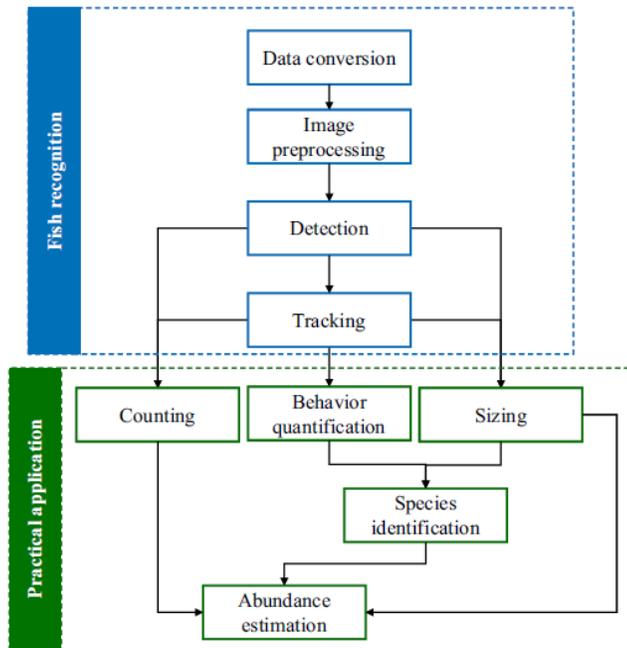


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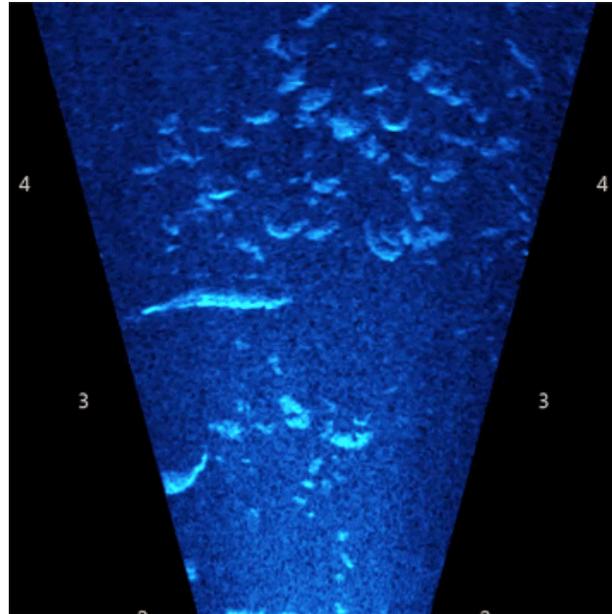


Acoustic Data Processing with Echoview

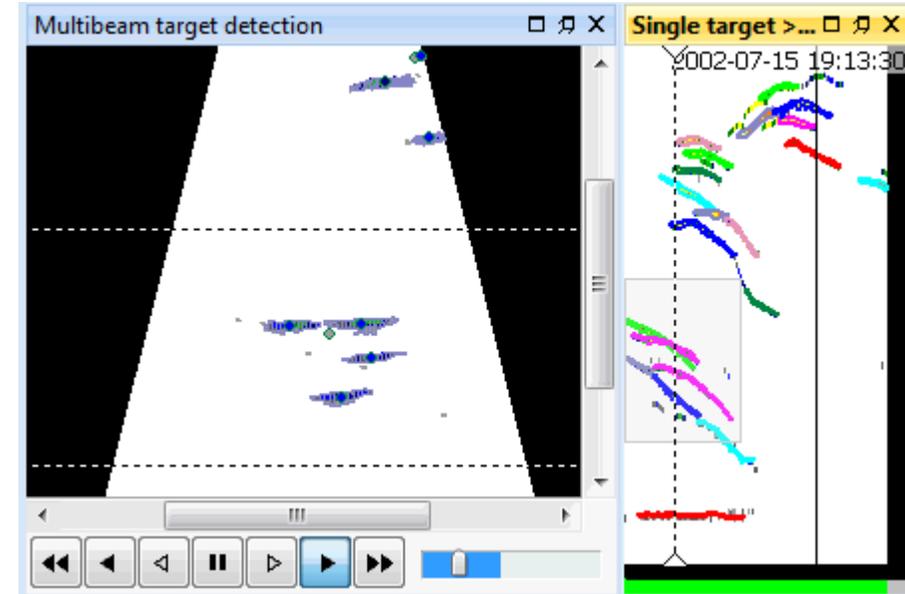
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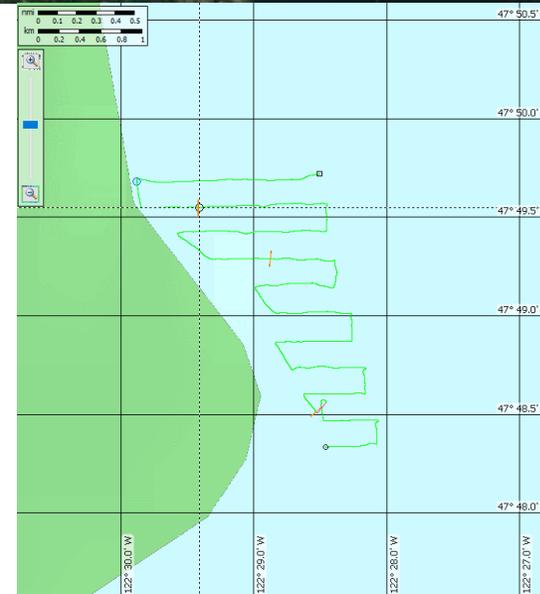
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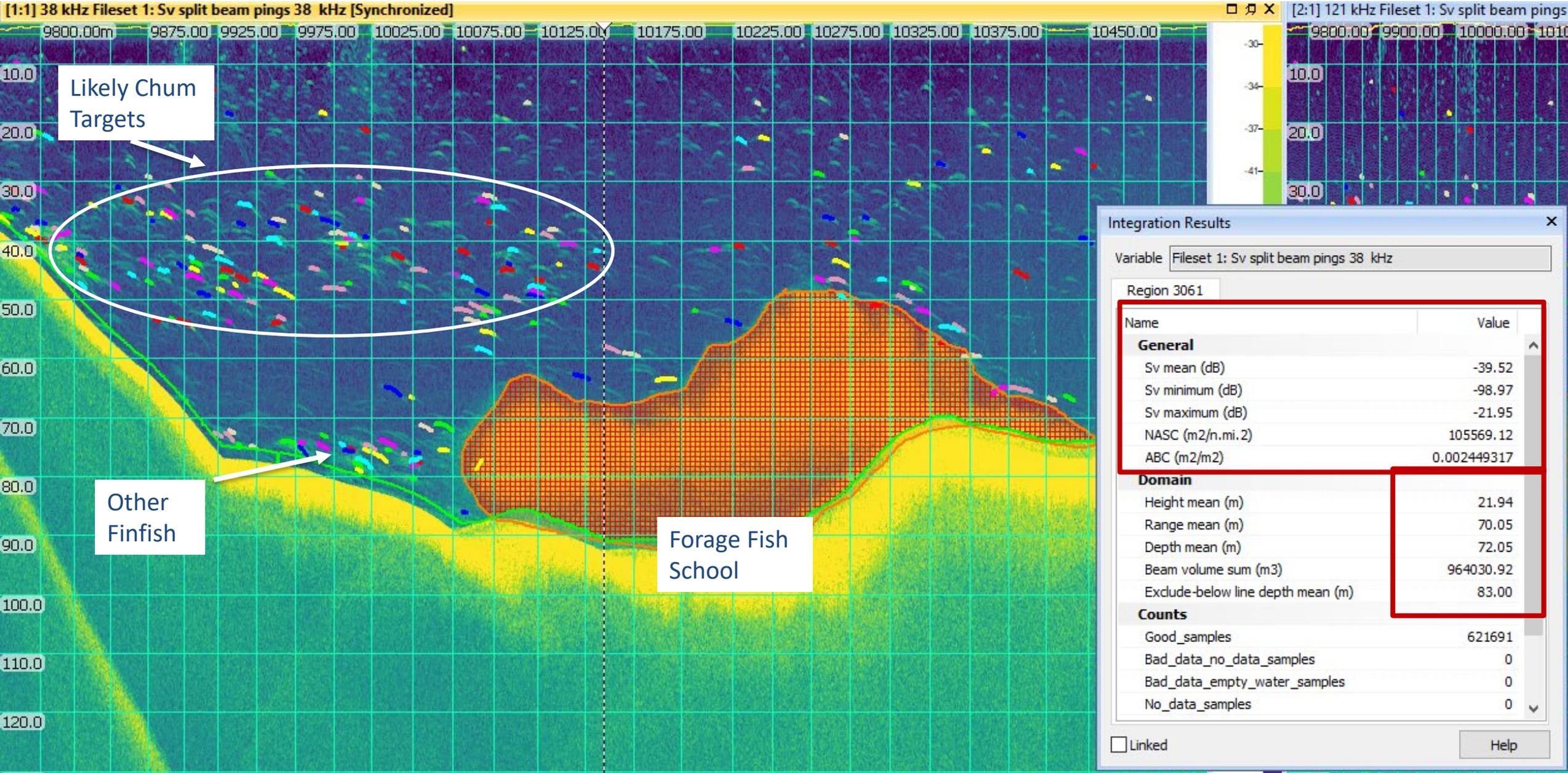
- Identified Site in Skagit – Near Mt. Vernon
- Purchased equipment and hired staff
- Conducted Acoustic Training with Sound Metrics
- Tested Equipment
- Define workflow and data review process (Echoview Software)
- Deployment set for June 2023



2022 Chum Acoustic Survey Pilot Study

- Compare chum detection and abundance to Area 9/10 test fishing
- Evaluate spatial and temporal detection and provide report post season
- 11 transects completed within survey area
 - Transect spacing ~250m
 - Transect length varies with coastline and depth
- 6 surveys completed in 2022
 - All done on days ACP occurred
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Likely Chum Targets

Other Finfish

Forage Fish School

Integration Results

Variable: Fileset 1: Sv split beam pings 38 kHz

Region 3061

Name	Value
General	
Sv mean (dB)	-39.52
Sv minimum (dB)	-98.97
Sv maximum (dB)	-21.95
NASC (m2/n.mi.2)	105569.12
ABC (m2/m2)	0.002449317
Domain	
Height mean (m)	21.94
Range mean (m)	70.05
Depth mean (m)	72.05
Beam volume sum (m3)	964030.92
Exclude-below line depth mean (m)	83.00
Counts	
Good_samples	621691
Bad_data_no_data_samples	0
Bad_data_empty_water_samples	0
No_data_samples	0

Linked Help



Next Steps

- Data Analysis and Reporting
 - Fine tune Single Target Detection and Fish Tracks using Echowiew
 - Continue to develop Data Flow to be implemented throughout study
 - Multifrequency analysis of forage fish schools
- Abundance Estimates
 - Match with test fishery catch data
 - Compare species and CPUE



Echoview License

- Echoview is crucial to the success of these projects
- Will allow for real-time data analysis
 - Key to in-season management

Product	License & Modules	Price (USD)
Echoview Upgrade	EV0079 Essentials, Advanced Operators, School Detection	\$10,660
Echoview Maintenance and Technical Support to 4 October 2023	EV0079 Essentials, Advanced Operators, School Detection	\$2,100
Subtotal		\$12,760
Echoview Maintenance and Technical Support to 4 October 2024	EV0079	\$8,330
	EV0475 – Freshwater only Essentials, Automation, Advanced Operators, Multibeam	\$4,950
Subtotal		\$13,280
Total		\$26,040



By Martin F Chen



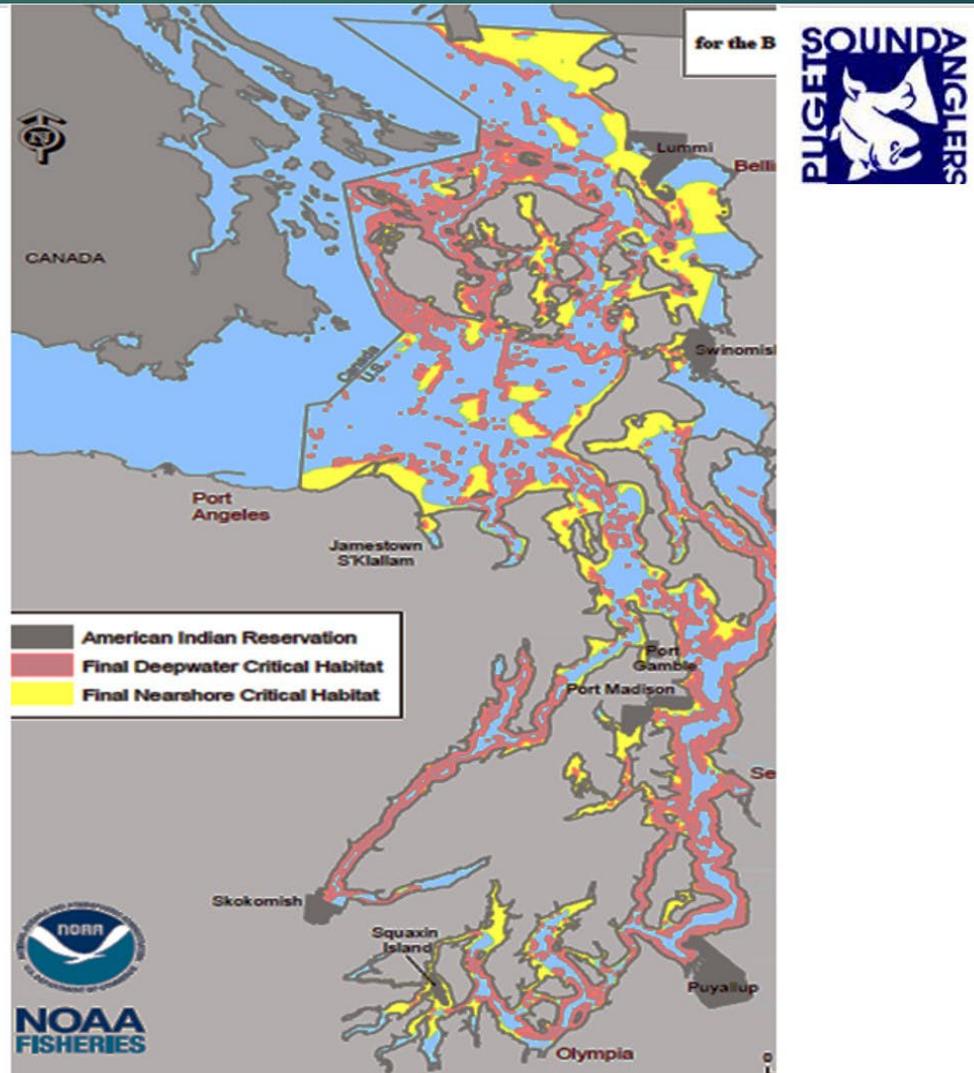
Species retention:
flounders, soles,
sanddabs and
surf/seaperch.

NEW PROPOSED AREAS FOR

Bottom fishing MA 12

NOAA Designation of Critical habitat for rockfish

Are any of your favorite fishing spots highlighted in pink or yellow?



Rock sole

Right eyed flatfish to 23", usually 10-16"

Small mouth

Irregular blotches on fins.

Prefer gravel bottoms.

Usual catch in cooler months.

Thin body- less meat than you think!



Sand dab

- ▶ Left eyed flatfish to 16" usually 7-12"
- ▶ Big mouth, caught jigging for salmon
- ▶ Fins plain, orange spots on upper side
- ▶ Mud-sand-gravel bottom
- ▶ Move shallower in summer 30-60 feet
- ▶ Deeper and harder to get in winter
- ▶ Body is thick, makes a better fillet

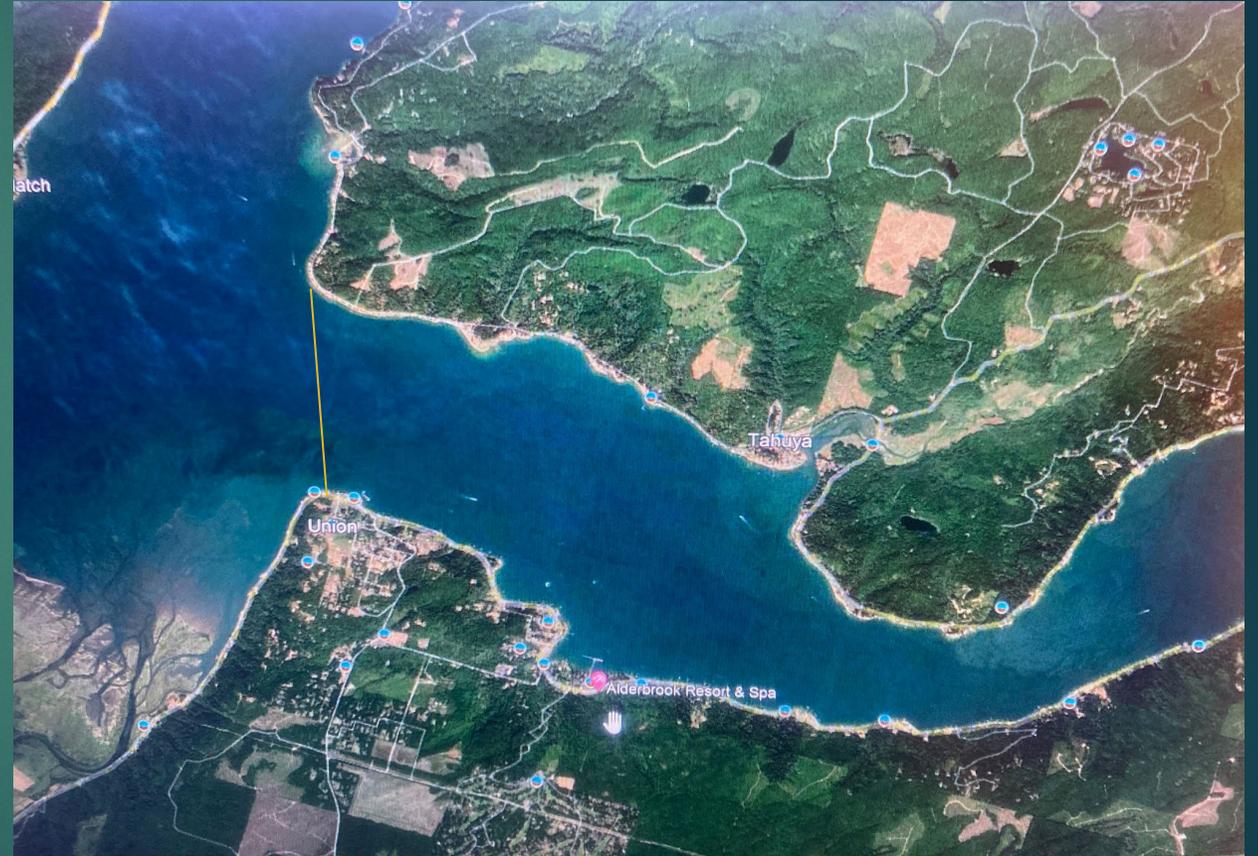
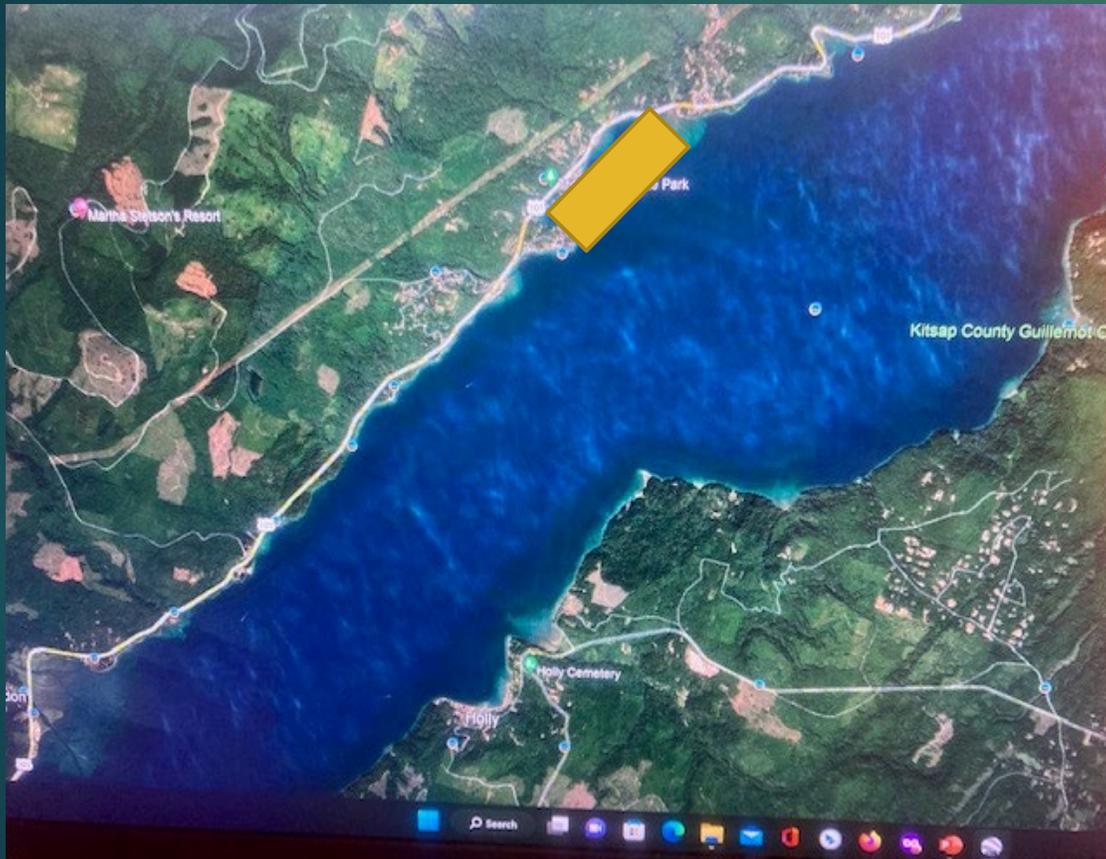


★ Starry Flounder ★

- ▶ Right eyed to 36" and 20 lbs! Usually 12-16"
- ▶ Fairly big mouth – caught sturgeon fishing
- ▶ Very rough skin
- ▶ Alternating black and orange bars on fins
- ▶ Very shallow (surf) to very deep water
- ▶ Also enters freshwater
- ▶ Especially likes mud-gravel deltas
- ▶ Mouths of rivers
- ▶ Thick body – great eating



Triton Cove, Upper Hood Canal: Boat and shore fishing.



Triton Head to Triton Cove Fishing Access: out to 120 foot depth and East of a line from Union Ramp to Ayres Pt, waters less than 120 feet deep.

Shore access fishing sites proposed: Hoodspport City Dock





Status of proposal: I have met with Kathryn Meyer, WDFW groundfish coordinator who was optimistic about the proposal but will take work to make it reality. She is looking for an expression of support and angler interest to justify the time resources needed. I have also discussed this informally with Davy Lowery (NOAA) who did not express objections regarding listed species. The proposed areas exclude places where yelloweye rockfish are present, there is no rockfish retention and a 120 depth limit.

Recruit, Retain and Reactivate

- ▶ This doesn't create an intense crowded short term fishery.
- ▶ This avoids areas where salmon are gill netted.
- ▶ It does provide a shoreline fishing opportunity with 3 state parks and 2 fishing piers. With prolonged closures, there is no reason for state parks to keep piers repaired and open like the one at Triton Cove.
- ▶ There are two kayak rental operations, and four public ramps plus private ramps that provide access.
- ▶ Shoreline property owners should welcome fishing opportunity again.
- ▶ A twenty year closure is too long without taking vigorous measures to restore lost fishing opportunity. Fishing is more than a once a year trip for shrimp and salmon. That is not how most kids are going to learn to fish. This is a chance to take your kid or grandkid out in a small boat or off a dock and teach them how to fish.